

ABSTRACT

The invention includes compositions and methods of detection of *Bacillus anthracis* that use oligonucleotide probes specific for genetic material contained in the pXO1 and pXO2 plasmids in nucleic acid hybridization reactions. Embodiments of the method may include additional probes specific for other gene sequences to distinguish *B. anthracis* from other bacterial species present in a sample or to provide an indication that the assay was performed properly even when no *Bacillus* sequence is detected.